

### Annual Report for 1970

The eye clinic has now been in operation for four years. Although the appointed working hours for the ophthalmologist has not been increased, there has been a steady increase in the number of patients seen each year. The increase in the working capacity of the clinic (see table 1) has mainly been rendered possible by improved secretarial assistance, now comprising two part-time secretaries.

*Table 1.*  
Increase in working capacity of the eye clinic.

	Consultations	Patients	Check-up for ensuing year	Waiting list at end of the year
1967	422	278	—	130
1968	382	295	140	96
1969	444	321	157	224
1970	499	356	213	109

During the years a total of 906 patients have been seen at the clinic. These patients came from the population of mentally retarded in the Copenhagen area, comprising a total of 2824 mentally retarded persons. Of the 906 persons examined, 157 were blind or partially sighted, as shown in table 2.

Table 2.

Total number of visually handicapped persons among 906 consecutively examined persons with mental retardation.

	Blind	Partially sighted	All visually handicapped	Total popul. of ment. ret.
Children	50	36	86	1199
Adults	18	53	71	1625
Total	68	89	157	2824

It is likely that the patients referred to the clinic were a group selected for their visual deficiencies because no ophthalmologist had been on the staffs of the Copenhagen hospitals for the mentally retarded until 1967. But even if no case of blindness or low vision should turn up during the next few years – which is unlikely – a frequency of visual deficiency of 5 per cent is 10 times as high as that expected in the normal population. In the group of patients actually examined, the frequency of blindness and low vision was more than three times as high.

The main causes of blindness in the group of patients examined appear from the lists of diagnoses. Of the 157 patients, two thirds belonged to three principal aetiological groups. This is shown in table 3.

Table 3.

Principal causes of visual handicap in 157 blind or partially sighted patients from a group of 906 mentally retarded patients, consecutively examined.

	Blind	Part. sighted	Total
Optic atrophy	23	22	45
Excessive myopia	5	29	34
Cataract	10	7	17
			<hr/> 96

#### Research in Progress

1. Central registration of blindness and low vision in all Danish institutions for the mentally retarded has been rendered possible by financial support from

the Research Foundation for the National Service for the Mentally Retarded. The register now contains the names of 156 patients living outside Copenhagen. The Copenhagen area, in which 157 cases of blindness and low vision were found, comprises one quarter of the Danish population. These figures suggest that the register is still incomplete.

2. Investigations are in progress on families with X-linked retinitis pigmentosa and choroideraemia, mainly concerning linkage with G-6-PD and Xg blood groups and the features in carriers.

3. Biochemical investigations on patients with generalized albinism are carried out in collaboration with N. J. Brandt, M.D.

Consultative reviews on mental retardation are being published in *Ugeskrift for Læger*. The editorial team consist of M. Mikkelsen, M.D., B. Beck, M.D., E. Niebuhr, M.D., B. Russell, D.S., and the staff of the eye clinic.

The collection of slides of pathological features of the eyes of the mentally retarded now comprises 997 items.

## Publications

Annual report for 1969

Focal Dermal Hypoplasia. *Acta Ophthalmologica* 1970 vol. 48: 525-536.

Tracing and Training of Blind and Partially Sighted Patients in Institutions for the Mentally Retarded. *Danish Medical Bulletin* 1970 vol. 17: 148-152.

Diagnosis of Metabolic Diseases of the Eye (in Danish) *Ugeskrift for Læger* 1970 vol. 132: 2388-2390.

Focal Dermal Hypoplasia (Goltz' syndrom). (In Danish). *Ugeskrift for Læger*. In print.

With Margareta Mikkelsen and Erik Niebuhr: Down's syndrome. (In Danish) *Ugeskrift for Læger*. In print.

Norrie's Disease. (In Danish). *Ugeskrift for Læger*. In print.

The Heterogeneity of Microphthalmia in the Mentally Retarded. *Birth Defects. Original Articles Series. The Second Conference on the Delineation of Birth Defects. March of Dimes*. In print.

Norrie's Disease. *Birth Defects. Original Articles Series. The Second Conference on the Delineation of Birth Defects. March of Dimes*. In print.

Norrie's Disease. Contribution to Sydney Gellis & Murray Feingold: *Atlas of Mental Retardation Syndromes*. Ed. 2.

## Book Review

P. J. Waardenburg: *Remarkable Facts in Human Albinism and Leukism*. *Acta Ophthalmologica*. (In print).

### Lectures

Diagnosis of Metabolic Diseases through Ophthalmologic Examination. Danish Ophthalmological Society. May 1970.

The Heterogeneity of Microphthalmia in the Mentally Retarded. Internat. Society for Neuro-Ophthalmology and Neurogenetics. Brussels Sept. 1970.

Sex-linked Retinitis Pigmentosa and Mary Lyon's Theory. Danish Ophthalmological Society. October 1970.

METTE WARBURG, M. D.  
Consultant Ophthalmologist

BIRTE LINELL  
Secretary

KIRSTEN RATHSACH  
Secretary

**WHO International Classification of Diseases**

Abbreviations: B, boys; M, men G, girls; W, women	Age					
	0-14		15-69		70-	
	B	G	M	W	M	W
04. <i>Viroses</i>						
04. 122. 1. Toxoplasmosis	1					
16. <i>Neoplasma benigna</i>						
16. 223. Neoplasma benign. oculi				1		
30. <i>Morbi inflammatorii oculi</i>						
30. 370. Conjunctivitis infectiva	1			1		
30. 370. 10. Conjunctivitis acuta	3	1		2		
30. 371. Blepharitis		1				
30. 373. Iridocyclitis				1		
30. 375. 40. Chorioiditis seq.	1		1	1		
30. 379. Alii morbi inflammatorii oculi						1
31. <i>Anomalia refractionis</i>						
31. 380. 0. Anisometropia			1	2		
31. 380. 10. Astigmatismus	2	1	8	5		
31. 380. 30. Hypermetropia	15	6	14	17		3
31. 380. 40. Hypermetropia excessiva ( $\geq +5$ )	2	3	4	7		
31. 380. 50. Myopia simplex	2		4	7		
31. 380. 60. Myopia excessiva ( $\leq -5$ )	4	5	7	12	1	2
31. 380. 70. Presbyopia			4	7		
31. 383. Pterygium			1			
31. 384. <i>Strabismus</i>						
31. 384. 10. Amblyopia ex anopsia strabotica				1		
31. 384. 30. Esophoria		1				
31. 384. 31. Esotropia monolateralis	13	6	3	1		
31. 384. 32. Esotropia alternans	5	8	1	2		
31. 384. 41. Exotropia monolateralis	2	1	1	8		
31. 384. 42. Exotropia alternans	2	1		2		
31. 384. 70. Insufficiencia convergens		1	1	1		
31. 384. 80. Ophthalmoplegia int. et ext.			2			
31. 384. 90. Paresis n. abducentis				1		

(Cont.)

**WHO International Classification of Diseases**

	Age					
	0-14		15-69		70-	
	B	G	M	W	M	W
31. 385. <i>Cataracta</i>						
31. 385. 10. Cataracta senilis				1	1	1
31. 385. 20. Cataracta complicata			1			
31. 386. Ablatio retinae + ruptura retinae	1					
31. 387. 40. Glaucoma simplex			1			
31. 388. <i>Alii morbi oculi</i>						
31. 388. 08. Ptosis palpebrae non congenita			2	1		
31. 388. 1. Blepharochalasis				1		
31. 388. 32. Keratoconus	1		1	1		
31. 388. 51. Opacitates corporis vitrei					1	
31. 388. 61. Aphakia postoperativa				1		
31. 388. 72. Atrophia n. optici	16	4	3	3		
31. 388. 76. Fibroplasia retrolentalis	2	1				
31. 389. Amaurosis	2					
44. 453. 03. Tortuositas vasorum	1		1	1		
86. <i>Malformationes congenitae</i>						
86. 753. 00. Cataracta congenita	2		3	5		
86. 753. 19. Ptosis palpebrae	3					
86. 753. 34. Keratoglobus			1			
86. 753. 35. Megalocornea				1		
86. 753. 41. Aniridia				1		
86. 753. 43. Coloboma irides, chorioideae	1	1				
86. 753. 55. Corpus vitr. prim. persistens	1					
86. 753. 62. Alia malformationes n. optici non specificata		2	1	1		
86. 753. 63. Coloboma n. optici		1				
86. 753. 65. Degeneratio macularis	3		1	1		
86. 753. 66. Degeneratio tapetoretinalis		2				
86. 753. 76. Microphthalmus	1			1		
86. 753. 80. Phacoma papillaries n. optici				1		
86. 758. 20. Hypertelorismus	1		1			

(Cont.)

WHO International Classification of Diseases

	Age					
	0-14		15-69		70-	
	B	G	M	W	M	W
87. <i>Laesiones in partu, asphyxia, infectiones neonatorum</i>						
87. 769. 20. Embryopathia rubeolosa			1			
87. 769. 30. Toxoplasmosis congenita, immaturitate non indicata				1		
86. 769. 80. Toxoplasmosis congenita, immaturitate indicata	2					
88. <i>Symptomata, senilitas, casus male definiti</i>						
88. 781. 10. Agnosi optica		3				
88. 781. 15. Nystagmus	4	1	3			
88. 781. 151. Nystagmus latens				1		
88. 781. 153. Nystagmus rotatorius	3					
88. 793. 03. Observatio	1					
96. N 921. Contusio oculi orbitae	1					
99. N 930. Myopia excessiva cum astigmatismo			1			
Y. <i>Casus speciales, examinationes sine morbo</i>						
Y. 09. Persona sine symptomati morbi	7	9	4	3		

# Classifications of Causes of Blindness

I. By Aetiology			Age					
			0-14		15-69		70-	
			B	G	M	W	M	W
<i>Infectious diseases</i>								
14.0	Meningitis	1967	1					
23.0	Rubella	1967		1				
		1969	1					
25.1	Toxoplasmosis prenatal	1967	2					
		1968	1					
		1969	1					
		1970	2					
<i>Accidents, poisoning, violence</i>								
46.0	Surgical or medical procedure	1967	1					
46.15	Dysoxygenation	1967	1			1		
		1970	2					
49.0	External cause not specified	1968	1					
48.0	Other external cause specified	1970	1					
<i>General diseases not elsewhere classified</i>								
65.8	Other disorders of central nervous system specified	1967	1	1				
		1968	2					
65.9	Disorder of central nervous system not specified	1967	1					
		1968	1	1	1			
		1969	1					
		1970	1					
<i>Prenatal influence not elsewhere classified</i>								
81.0	Genetic origin established	1968	1					
		1969			1			
82.0	Genetic origin probable	1969	1					
		1970		1				
88.0	Other prenatal influence not elsewhere classified, specified:							
88.10	Central nervous system	1967	2	2				
		1968		1				
		1969	2					
		1970	1					
88.20	Chromosomal	1967			1			
88.40	Syndromes	1967	1					
		1969				1		
		1970		1		1		

(Cont.)



# Classifications of Causes of Blindness

I. By Actiology			Age					
			0-14		15-69		70-	
			B	G	M	W	M	W
89.0	Prenatal influence not specified	1967	6	1				
		1968	1					
		1970		1		1		
91.0	Unknown to science	1967		2	1			
		1968			2	1	1	
		1969			1			1
		1970	1				3	
98.0	Evidence insufficient for diagnosis	1968					1	
		1970		1				
Total			37	13	7	5	5	1

# Classifications of Causes of Blindness

II. By Site and Type of Affection			Age					
			0-14		15-69		70-	
			B	G	M	W	M	W
<i>Eyeball in general</i>								
110	Eyeball excluding infantile	1970					1	
122	Myopia, detachment of retina not specified	1967			1			
		1968			2	1		
		1970					1	
144	Microphthalmia	1969	1			1		
		1970	1					
<i>Cornea</i>								
370	Keratoconus	1967			1			
<i>Lens</i>								
410	Cataract	1967	3	2				
		1968					1	
		1969	1		1			1
		1970					1	
<i>Uveal tract</i>								
560	Chorioretinitis	1967	1					
		1968	1					
		1970	1					
<i>Retina</i>								
630	Retrolental fibroplasia	1967	1			1		
		1970	2					
650	Tapetoretinal degeneration and allied conditions including retinitis pigmentosa	1967		1				
		1970		1				
660	Macular degeneration	1967	1					
		1969	1					
<i>Optic nerve, optic pathways, and cortical visual centres</i>								
710	Optic nerve atrophy	1967	6	3				
		1968	4	1			1	
		1969	3					
		1970	3	1		1		
750	Lesion of optic pathway or cortical visual centre	1967	1	1				
		1968		1	1			
		1970		2		1		

(Cont.)

# Classifications of Causes of Blindness

II. By Site and Type of Affection		Age					
		0-14		15-69		70-	
		B	G	M	W	M	W
<i>Vitreous</i>							
880	Other affection of vitreous specified						
	1968	1					
	1969			1			
<i>Site and type indefinite or not reported</i>							
945	Ampliyopia uni- or bilateral, not explained						
	1967	2					
	1969	1					
950	Congenital nystagmus						
	1967	1					
980	Evidence insufficient for diagnosis						
	1970	1					
Total		37	13	7	5	5	1

# Classifications of Causes of Low Vision

I. By Aetiology			Age					
			0-14		15-69		70-	
			B	G	M	W	M	W
<i>Infectious diseases</i>								
25.1	Toxoplasmosis prenatal	1967			1	1		
		1969	1					
29.0	Infectious disease, not specified	1969				1		
<i>Accidents, poisoning, violence</i>								
45.0	Birth Process	1967	2		1	1		
		1968				1		
<i>General diseases not elsewhere classified</i>								
65.8	Other disorder of central nervous system specified	1967		1				
		1968	1					
		1969			1			
65.9	Disorder of central nervous system, not specified	1969				1		
<i>Prenatal influence not elsewhere classified</i>								
81.0	Genetic origin established	1967		1				
		1968				1		
		1969				1		
		1970				1		
82.0	Genetic origin probable	1967	1					
88.0	Other prenatal influence not elsewhere classified, specified:							
88.10	Central nervous system	1967	3	3				
		1968	1					
		1969	1			1		
		1970	2	1		1		
88.20	Chromosomal	1967	1			1		
		1968		1				
		1969				2		
88.40	Syndromes	1967			1			
89.0	Prenatal influence not specified	1967	2	1				
		1968	1		1	1		
		1969	2	4	2			
		1970		1	1			
91.0	Unknown to science	1967			2	2	1	1

(Cont.)

# Classifications of Causes of Low Vision

I. By Actiology		Age					
		0-14		15-69		70-	
		B	G	M	W	M	W
	1968	2		1	6	1	
	1969			2	6	1	
	1970	3		1	2	1	1
98.0	Evidence insufficient for diagnosis				1		1
	1968						
	1969			1			
	Total	23	13	15	31	4	3

# Classifications of Causes of Low Vision

II. By Site and Type of Affection		Age					
		0-14		15-69		70-	
<i>Eyeball in general</i>		B	G	M	W	M	W
110	Glaucoma excluding infantile 1969					1	
121	Myopia with detachment of retina 1969			1			
122	Myopia, detachment of retina not specified 1967	1		2	4		
	1968	2		2	3	1	
	1969		1	1	4		
	1970	2		1	2	1	1
144	Microphthalmia 1967				1		
	1968				1		
	1970				1		
145	Aniridia 1967		1				
146	Coloboma, any part, excluding surgical 1967		1				
	1969	1					
	1970		1				
180	Other general affection of eyeball specified 1969			1			
<i>Cornea</i>							
319	Keratitis, other type specified 1968						1
370	Keratoconus 1968				1		
	1970	1					
<i>Lens</i>							
410	Cataract:						
410.10	Congenital cataract 1967					1	1
	1968				1		
	1969				3		
	1970				1		
<i>Uveal tract</i>							
560	Chorioretinitis 1969	1			1		
<i>Retina</i>							
650	Tapetoretinal degeneration and allied conditions including retinitis pigmentosa 1967		1	1			
	1969				1		
660	Macular degeneration 1967	1					
	1970	1					

(Cont.)

# Classifications of Causes of Low Vision

II. By Site and Type of Affection (cont.)		Age					
		0-14		15-69		70-	
		B	G	M	W	M	W
<i>Optic nerve, optic pathway, and cortical visual centres</i>							
710	Optic nerve atrophy, optic neuritis or papilloedema						
	1967	5	1	1	1		
	1968	2	1		2		
	1969	1	2	1	3		
	1970	1	1				
740	Affection of optic nerve, not specified						
	1967	1					
750	Lesion of optic pathway or cortical visual centre						
	1967		1				
	1969		1				
<i>Site and type indefinite or not reported</i>							
945	Amblyopia uni- or bilateral not explained						
	1969			2			
950	Congenital nystagmus						
	1967	1	1	1			
	1968	1			1		
	1969	1					
	1970			1			
Total		23	13	15	31	4	3

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